

ID NO:1. The amino acid sequence corresponds to amino acids 1 to 839 of SEQ ID NO:2. The coding region without the 5' and 3' untranslated regions of the human VR-1 (hVR-1) gene is shown in SEQ ID NO:3.

with:

B' --*Figures 1A-D* depict the full length cDNA sequence and predicted amino acid sequence of human VR-1 (hVR-1). The nucleotide sequence corresponds to nucleic acids 1 to 3909 of SEQ ID NO:1. The amino acid sequence corresponds to amino acids 1 to 839 of SEQ ID NO:2. The coding region without the 5' and 3' untranslated regions of the human VR-1 (hVR-1) gene is shown in SEQ ID NO:3.--

In the Claims:

Please cancel claims 20 and 21, without prejudice, and add new claims 27-45 as follows.

27. A method for identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:5, the method comprising:

- a) contacting a cell expressing the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:5.

28. A method for identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:20, the method comprising:

- a) contacting a cell expressing the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:20.

29. A method for identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:5, the method comprising:

- a) contacting a cell expressing the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:5.

30. A method for identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:20, the method comprising:

- a) contacting a cell expressing the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:20.

31. A method for identifying a compound which binds to a polypeptide comprising at least 15 contiguous amino acids of SEQ ID NO:5, the method comprising:

- a) contacting a cell expressing the polypeptide with a test compound under conditions suitable binding; and
- b) determining whether the test compound binds to said polypeptide, thereby identifying a compound which binds to a polypeptide comprising at least 15 contiguous amino acids of SEQ ID NO:5.

32. The method of any one of claims 27-31, wherein binding of the test compound to the polypeptide is detected by the use of an assay for a hVR-2 activity.

33. The method of claim 32, wherein said hVR-2 activity is modulation of membrane depolarization.

34. The method of claim 32, wherein said hVR-2 activity is modulation of intracellular calcium levels.

35. The method of any one of claims 27-31, wherein said cell expressing said polypeptide is a neuronal cell.

36. The method of any one of claims 27-31, wherein said compound modulates the activity of said polypeptide.

37. A method for identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:5, the method comprising:

- a) contacting a sample comprising the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:5.

38. A method for identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:20, the method comprising:

- a) contacting a sample comprising the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:20.

39. A method for identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:5, the method comprising:

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cont.

- a) contacting a sample comprising the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:5.

40. A method for identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:20, the method comprising:

- a) contacting a sample comprising the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to the polypeptide, thereby identifying a compound which binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO:20.

41. A method for identifying a compound which binds to a polypeptide comprising at least 15 contiguous amino acids of SEQ ID NO:5, the method comprising:

- a) contacting a sample comprising the polypeptide with a test compound under conditions suitable for binding; and
- b) determining whether the test compound binds to said polypeptide, thereby identifying a compound which binds to a polypeptide comprising at least 15 contiguous amino acids of SEQ ID NO:5.

42. The method of any one of claims 27-31 or 37-41, wherein binding of said test compound to said polypeptide is detected by the use of a yeast two-hybrid assay.

43. The method of any one of claims 37-41, wherein binding of said test compound to said polypeptide is detected by the use of a direct binding assay.